



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,447	03/29/2004	Shih-Hsien Lin	JCLA10877	3358
7590		05/02/2007	EXAMINER	
J.C. Patents, Inc.		WALFORD, NATALIE K		
4 Venture, Suite 250		ART UNIT		
Irvine, CA 92618		PAPER NUMBER		
			2879	
			MAIL DATE	DELIVERY MODE
			05/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/812,447

Applicant(s)

LIN ET AL.

Examiner

Natalie K. Walford

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 30-40 is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2004 and 01 February 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 2/07.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

The Amendment, filed on February 1, 2007, has been entered and acknowledged by the Examiner. Claims 1-40 are pending in the instant application.

Drawings

The drawings were received on February 1, 2007. These drawings are entered and acknowledged by the Examiner.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-10, 13, 15-25, and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee (US PUB 2002/0105260).

Regarding claim 1, Lee discloses a cold cathode fluorescent flat lamp in figure 4, comprising: a first plate (item 31), having a plurality of grooves (area around item 37); a second plate (item 31a), disposed on the first plate, so that the grooves constitute a plurality of airtight chambers (area inside items 37 and 39); a fluorescent substance (items 39 and 39a), disposed on either part of or all of the inner walls of the airtight chambers; a discharge gas (paragraph 41),

Art Unit: 2879

disposed inside the airtight chambers; and a plurality of electrodes (item 33 and 35), disposed on both sides of the airtight chambers, respectively.

Regarding claim 2, Lee discloses the cold cathode fluorescent flat lamp of claim 1, wherein the first plate and the second plate are made of a material such as glass (paragraph 39).

Regarding claim 3, Lee discloses the cold cathode fluorescent flat lamp of claim 1, wherein the discharge gas comprises an inert gas (paragraph 41).

Regarding claim 4, Lee discloses the cold cathode fluorescent flat lamp of claim 3, wherein the inert gas comprises Xe, Ne, or Ar (paragraph 41).

Regarding claim 5, Lee discloses the cold cathode fluorescent flat lamp of claim 1, wherein the electrodes are made of a metal electrode (paragraph 40).

Regarding claim 6, Lee discloses the cold cathode fluorescent flat lamp of claim 5, wherein the metal electrode comprises nickel electrode, silver electrode, copper electrode, molybdenum electrode, or niobium electrode (paragraph 40).

Regarding claim 7, Lee discloses the cold cathode fluorescent flat lamp of claim 1, wherein the grooves are extended in parallel to one edge of the first plate (see FIG. 4).

Regarding claim 8, Lee discloses the cold cathode fluorescent flat lamp of claim 1, wherein the grooves are extended in a direction inclined with a certain angle from one edge of the first plate (see FIG. 4).

Regarding claim 9, Lee discloses the cold cathode fluorescent flat lamp of claim 1, wherein the grooves comprise either rectangle grooves or arc grooves (see FIG. 4).

Art Unit: 2879

Regarding 10, Lee discloses the cold cathode fluorescent flat lamp of claim 1, further comprising at least one connection groove (see FIG. 3), wherein the connection groove is formed in between the grooves, so that the grooves are connected with each other (see FIG. 3).

Regarding claim 13, Lee discloses the cold cathode fluorescent flat lamp of claim 1, wherein the bottom of the second plate is a diffusion surface (paragraph 42).

Regarding claim 15, Lee discloses a cold cathode fluorescent flat lamp in figure 4, comprising: a first plate (item 31), having a plurality of first grooves (area around bottom of item 37); a second plate (item 31a), having a plurality of second grooves (area around top of item 37), wherein the second plate is disposed on the first plate (see FIG. 4), and the second grooves are corresponded to the first grooves (see FIG. 4), respectively, so that the first grooves and the second grooves constitute a plurality of airtight chambers (area inside items 37 and 39); a fluorescent substance (items 39 and 39a), disposed on either part of or all of the inner walls of the airtight chambers; a discharge gas (paragraph 41), disposed inside the airtight chambers; and a plurality of electrodes (items 33 and 35), disposed on both sides of the airtight chambers, respectively.

Regarding claim 16, Lee discloses the cold cathode fluorescent flat lamp of claim 15, wherein the first plate and the second plate are made of a material such as glass (paragraph 39).

Regarding claim 17, Lee discloses the cold cathode fluorescent flat lamp of claim 15, wherein the discharge gas comprises an inert gas (paragraph 41).

Regarding claim 18, Lee discloses the cold cathode fluorescent flat lamp of claim 17, wherein the inert gas comprises Xe, Ne, or Ar (paragraph 41).

Regarding claim 19, Lee discloses the cold cathode fluorescent flat lamp of claim 15, wherein the electrodes are made of a metal electrode (paragraph 40).

Regarding claim 20, Lee discloses the cold cathode fluorescent flat lamp of claim 19, wherein the metal electrode comprises nickel electrode, silver electrode, copper electrode, molybdenum electrode, or niobium electrode (paragraph 40).

Regarding claim 21, Lee discloses the cold cathode fluorescent flat lamp of claim 15, wherein the first grooves and the second grooves are extended in parallel to one edge of the first plate (see FIG. 4).

Regarding claim 22, Lee discloses the cold cathode fluorescent flat lamp of claim 15, wherein the first grooves and the second grooves are extended in a direction inclined with a certain angle from one edge of the first plate (see FIG. 4).

Regarding claim 23, Lee discloses the cold cathode fluorescent flat lamp of claim 15, further comprising at least one connection groove (see FIG. 3), wherein the connection groove is formed in between the first grooves, so that the first grooves are connected with each other (see FIG. 3).

Regarding claim 24, Lee discloses the cold cathode fluorescent flat lamp of claim 15, wherein the first grooves and the second grooves comprise either rectangle grooves or arc grooves (see FIG. 4).

Regarding claim 25, Lee discloses the cold cathode fluorescent flat lamp of claim 15, further comprising at least one connection groove (see FIG. 3), wherein the connection groove is formed in between the second grooves, so that the second grooves are connected with each other (see FIG. 3).

Art Unit: 2879

Regarding claim 28, Lee discloses the cold cathode fluorescent flat lamp of claim 15, wherein the bottom of the second plate is a diffusion surface (paragraph 42).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-12, 14, 26-27, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (US PUB 2002/0105260) in view of Winsor (US 6,100,635).

Regarding claim 11, Lee discloses the cold cathode fluorescent flat lamp of claim 10, but does not expressly disclose that the width of the connection groove is 0.1 mm ~ 10 mm, and the depth of the connection groove is 0.1 mm ~ 5 mm, as claimed by Applicant. Winsor is cited to show a cold cathode fluorescent flat lamp wherein the width of the connection groove is 0.1 - 10 mm (FIG. 3, item d_g and column 5, lines 50-51), and the depth of the connection groove is 0.1 mm - 5 mm (FIG. 3, item d_d and column 5, lines 38-39). Winsor teaches that with that connection groove width that adequate uniformity of light distribution can be maintained (column 5, lines 51-68) and that depth of the connection groove should be relatively shallow (column 5, lines 34-38).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Lee's invention to include the width of the connection groove

Art Unit: 2879

is 0.1 mm ~ 10 mm, and the depth of the connection groove is 0.1 mm ~ 5 mm as suggested by Winsor for maintaining adequate uniformity of light distribution.

Regarding claim 12, Lee discloses the cold cathode fluorescent flat lamp of claim 1, but does not expressly disclose that the bottom of the first plate is a reflective surface, as claimed by Applicant. Winsor is cited to show a cold cathode fluorescent lamp in figure 3 with a reflective surface (item 110). Winsor teaches that lamp efficiency is improved and the coating reflects both the visible and ultraviolet energy (column 5, lines 61-67).

Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Lee's invention to include the bottom of the first plate is a reflective surface as suggested by Winsor for improving the lamp efficiency.

Regarding claim 14, Lee discloses the cold cathode fluorescent flat lamp of claim 1, but does not expressly disclose the lamp further comprises an impedance device, wherein the resistance device is disposed on the electrodes, and the impedance device is a resistor, a capacitor, or an inductor, as claimed by Applicant. Winsor is cited to show a cold cathode fluorescent lamp in figure 2 with a resistor (item 106). The Examiner notes that the resistor (i.e. glass bead) is formed around the electrodes and is an insulative barrier (column 4, lines 39-50). Winsor teaches that the insulative barrier prevents current from flowing since it is made of an insulative material.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Lee's invention to include an impedance device, wherein the resistance device is disposed on the electrodes, and the impedance device is a resistor, a capacitor, or an inductor as suggested by Winsor for preventing current from flowing.

Regarding claim 26, Lee discloses the cold cathode fluorescent flat lamp of claim 25, but does not expressly disclose that the width of the connection the groove is 0.1 mm ~ 10 mm, and the depth of the connection groove is 0.1 mm ~ 5 mm, as claimed by Applicant. Winsor is cited to show a cold cathode fluorescent flat lamp wherein the width of the connection groove is 0.1 - 10 mm (FIG. 3, item d_g and column 5, lines 50-51), and the depth of the connection groove is 0.1 mm - 5 mm (FIG. 3, item d_d and column 5, lines 38-39). Winsor teaches that with that connection groove width that adequate uniformity of light distribution can be maintained (column 5, lines 51-68) and that depth of the connection groove should be relatively shallow (column 5, lines 34-38).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Lee's invention to include the width of the connection groove is 0.1 mm ~ 10 mm, and the depth of the connection groove is 0.1 mm ~ 5 mm as suggested by Winsor for maintaining adequate uniformity of light distribution.

Regarding claim 27, Lee discloses the cold cathode fluorescent flat lamp of claim 15, but does not expressly disclose that the bottom of the first plate is a reflective surface, as claimed by Applicant. Winsor is cited to show a cold cathode fluorescent lamp in figure 3 with a reflective surface (item 110). Winsor teaches that lamp efficiency is improved and the coating reflects both the visible and ultraviolet energy (column 5, lines 61-67).

Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Lee's invention to include the bottom of the first plate is a reflective surface as suggested by Winsor for improving the lamp efficiency.

Art Unit: 2879

Regarding claim 29, Lee discloses the cold cathode fluorescent flat lamp of claim 15, but does not expressly disclose the lamp further comprises an impedance device, wherein the resistance device is disposed on the electrodes, and the impedance device is a resistor, a capacitor, or an inductor, as claimed by Applicant. Winsor is cited to show a cold cathode fluorescent lamp in figure 2 with a resistor (item 106). The Examiner notes that the resistor (i.e. glass bead) is formed around the electrodes and is an insulative barrier (column 4, lines 39-50). Winsor teaches that the insulative barrier prevents current from flowing since it is made of an insulative material.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Lee's invention to include an impedance device, wherein the resistance device is disposed on the electrodes, and the impedance device is a resistor, a capacitor, or an inductor as suggested by Winsor for preventing current from flowing.

Allowable Subject Matter

Claims 30-40 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 30, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 30, specifically for the limitation of a cold cathode fluorescent flat lamp comprising a wave-type structure having a plurality of wave peaks and a plurality of wave troughs with a first plate disposed on the wave troughs and a second plate disposed on the wave peaks in combination with other claimed features of the present claimed invention.

Art Unit: 2879

Regarding claims 31-40, claims 31-40 are allowable for the reasons given in claim 30 because of their dependency status from claim 30.

Response to Arguments

Applicant's arguments with respect to claims 1-40 have been considered but are moot in view of the new ground(s) of rejection.

Contact Information

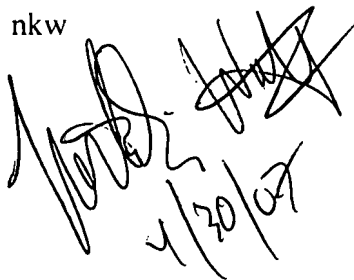
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalie K. Walford whose telephone number is (571)-272-6012. The examiner can normally be reached on Monday-Friday, 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571)-272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Art Unit: 2879

nkW

Handwritten signature and date 4/20/07.

Sikha Roy

SIKHA ROY
PRIMARY PATENT EXAMINER